

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10000-11 (1980): Methods of tests for internal combustion engines, Part 11: Information to be supplied by the purchaser to the manufacturer and information to be supplied by the manufacturer alongwith the engine [TED 2: Automotive Primemovers]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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*Indian Standard***METHODS OF TESTS FOR
INTERNAL COMBUSTION ENGINES****PART XI INFORMATION TO BE SUPPLIED BY THE PURCHASER
TO THE MANUFACTURER AND INFORMATION TO BE SUPPLIED
BY THE MANUFACTURER ALONG WITH THE ENGINE**

1. Scope — Lays down the relevant informations to be furnished by the purchaser to the manufacturer and by the manufacturer to the purchaser of the engine.

2. Information to be Supplied by the Purchaser Along with Order or Enquiry**a) Site Conditions:**

- i) Site barometric pressure (highest and lowest readings available, if no pressure data are available, the altitude above sea level);
 - ii) The monthly mean, minimum and maximum air temperatures, during the hottest and coldest months of the year;
 - iii) The highest and lowest ambient air temperatures around the engine;
 - iv) The relative humidity (or alternatively the water vapour pressure or the wet and dry bulb temperature) ruling at the maximum temperature conditions; and
 - v) The maximum and minimum temperatures of the cooling water available.
- b) Whether the engine is to comply with the requirements of any classification society or with special requirements or any statutory regulation.
 - c) The probable period for which the engine will be running continuously, and the duration of maximum and minimum load.
 - d) The specification and lower calorific value of the fuel available.
 - e) The application and the power required from the engine and the details arising therefrom.
 - f) The expected frequency and duration of the required powers and the corresponding engine speeds.
 - g) Any other information appropriate to the particular engine application.

3. Information to be Supplied with the Engine by the Manufacturer

- i) Name of the engine manufacturer :
- ii) Type of engine :
- iii) Model and No. of cylinders :
- iv) IS rating :
- v) Rating at site conditions (if required by user) :
- vi) Direction of rotation [according to IS : 7451 (Part IV)] : Yes/No (if 'No' give details)
- vii) No. and arrangement of cylinders [according to IS : 7451 (Part V)] :
- viii) Whether two stroke or four stroke :

IS : 10000 (Part XI) – 1980

- ix) Bore (mm) :
- x) Stroke (mm) :
- xi) Cubic capacity (litres) :
- xii) Nominal compression ratio :
- xiii) Injection pump type, make and number of units (wherever applicable) :
- xiv) Governor type :
- xv) Muffler (silencer) type :
- xvi) Filter type and make :
 - a) Air
 - b) Fuel
 - c) Lubricating oil
- xvii) Recommended fuel oil specification :
- xviii) Fuel oil tank capacity (if fitted) :
- xix) Lubricating oil specification :
- xx) Mode of starting, apparatus required :
- xxi) Weight of engine :
- xxii) Overall dimensions of engine and outline drawing :
- xxiii) Performance curves as per IS : 10000 (Part VI)- 1980 at standard reference condition specified in IS : 10000 (Part II)-1980 :
- xxiv) Accessories on engine as tested and for which a power allowance has been made in the manufacturers' calculation of site rating (if required by user) :
- xxv) Voltage of electrical system (if applicable) :
- xxvi) List of equipment and tools that will normally be supplied :
- xxvii) List of supplementary equipment :
- xxviii) Schedule of recommended maintenance and overhaul periods :
- xxix) Maximum permissible back pressure in the exhaust system and maximum permissible intake depression :
- xxx) Type of governing, with speed drop, if required. If for variable speed duties, the working speed range and the idling speed :
- xxxi) Method of cooling and the capacity of the cooling system with the specified rates of water and oil circulation :
- xxxii) Any other information appropriate to the particular engine application :

EXPLANATORY NOTE

The testing and performance of constant speed and variable speed internal combustion engines was earlier covered by the following Indian Standards:

- IS : 1600-1960 Code for type testing of constant speed internal combustion engines for general purposes,
- IS : 1601-1960 Performance of constant speed internal combustion engines for general purposes,
- IS : 1602-1960 Code for type testing of variable speed internal combustion engines for automotive purposes, and
- IS : 1603-1960 Performance of variable speed internal-combustion engines for automotive purposes.

These standards were originally issued in the year 1960 and as a result of implementation of these standards by the manufacturers of engines and testing laboratories, as also the operation of ISI Certification Marking Scheme, these standards have now been extensively revised.

While IS : 1600 and IS : 1602 covered the codes for type testing of constant and variable speed engines respectively, the performance requirements of such engines were covered by IS : 1601 and IS : 1603, respectively. These standards are replaced by two sets of standards, one set covers the methods of testing of engines and the other covers the specification and performance requirements of both constant speed and variable speed engines.

The standard covering methods of tests is being published in following 12 parts (each part covering a particular test method or information related to methods of tests):

- IS : 10000 Part I Glossary of terms relating to test methods
- IS : 10000 Part II Standard reference conditions
- IS : 10000 Part III Measurements for testing, units and limits of accuracy
- IS : 10000 Part IV Declarations of power, efficiency, fuel consumption and lubricating oil consumption
- IS : 10000 Part V Preparation for tests and measurements for wear
- IS : 10000 Part VI Recording of test results
- IS : 10000 Part VII Governing tests for constant speed engines and selection of engines for use with electrical generators
- IS : 10000 Part VIII Performance tests
- IS : 10000 Part IX Endurance tests
- IS : 10000 Part X Tests for smoke levels, limits and corrections for smoke levels for variable speed engines
- IS : 10000 Part XI Information required with inquiry or order and information supplied by the manufacturer with the engine
- IS : 10000 Part XII Test certificates

This standard will be complementary to specifications for performance requirements of different types of engines covered by following standards:

- IS : 10001 Specification for performance requirements for constant speed compression ignition (diesel) engines for general purposes (up to 20 kW)
- IS : 10002 Specification for performance requirements for constant speed compression ignition (diesel) engines for general purposes (above 20 kW)
- IS : 10003 Specification for performance requirements for variable speed compression ignition (diesel) engines for automotive purposes
- IS : 10004 Specification for performance requirements for variable speed spark ignition engines for automotive purposes

Spark ignition engines for sprayers and similar applications have been covered by IS : 7347-1974 ' Specification for performance requirements of small size spark ignition engines for sprayers and other application '.

Two stroke spark ignition engines for automotive applications which were earlier covered by IS : 1603 will be covered by a separate specification.

IS : 10000 (Part XI) - 1980

The revised methods of tests covered by IS : 10000 have been aligned with the current international practices in the field of I. C. engines. These parts are in general agreement with the following ISO standards, issued by the International Organization for Standardization:

- a) ISO 3046/I-1975 Reciprocating internal combustion engines — Performance: Part I
Standard reference conditions and declarations of power, fuel
consumption and lubricating oil consumption
- b) ISO 3046/II-1977 Reciprocating internal combustion engines — Performance: Part II
Test methods
- c) ISO 3046/III-1979 Reciprocating internal combustion engines — Performance: Part III
Test measurements

IS : 10000 (Part I to Part XII) and IS : 10001, IS : 10002, IS : 10003 and IS : 10004 collectively supersede IS : 1600, IS : 1601, IS : 1602 and IS : 1603.